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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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06/22/2001

Ornan A. Gerstel

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09/20/2006

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EXAMINER

BELLO, AGUSTIN

ART UNIT

PAPER NUMBER

2613

DATE MAILED: 09/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	09/886,153	GERSTEL ET AL.	
	Examiner	Art Unit	
	Agustin Bello	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17, 51-58 and 72-101 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 10-17, 51, 52, 54-58 and 72-101 is/are rejected.
- 7) ☒ Claim(s) 5-9 and 53 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/11/06 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-4, 13-14, 17, 51-52, 56, 72-85, 87, 91, 95, and 99 are rejected under 35 U.S.C. 102(e) as being anticipated by Sato (U.S. Patent No. 6,477,288).

Regarding claims 1, 51, 72-76, 84, Sato teaches a communication network, comprising: a plurality of first communication paths (leftmost reference numeral 5, 7 in Figure 5A); a plurality of second communication paths (rightmost reference numeral 5, 7 in Figure 5A); and a plurality of nodes (as described throughout the specification), adjacent ones of said nodes being coupled together through said first communication paths and said second communication paths (e.g. both working and protection path shown in Figure 5A), each node comprising: a plurality of switches (reference numeral 13-14, 16-17 Figure 5A), including a first switch (reference numeral 13 in

Art Unit: 2613

Figure 5A) and a second switch (reference numeral 14 in Figure 5A), each having at least one first terminal (circles seen in Figure 5A), at least one second terminal (circles seen in Figure 5A), at least one third terminal (circles seen in Figure 5A), and at least one fourth terminal (circles seen in Figure 5A), wherein the first terminal (penultimate circle from top of switch 13 in Figure 5A) and the second terminal (uppermost circle from top of switch 13 in Figure 5A) of said first switch are coupled through first plural communication paths (reference numeral 5 in Figure 5A) and second plural communication paths (reference numeral 7 in Figure 5A), respectively, to a first, adjacent one of the nodes (e.g. nodes to the left of the node of Figure 5A), the first terminal (penultimate circle from top of switch 14 in Figure 5A) and the second terminal (uppermost circle from top of switch 14 in Figure 5A) of said second switch (reference numeral 14 in Figure 5A) are coupled through plural other first communication paths (rightmost reference numeral 5 in Figure 5A) and plural other second communication paths (rightmost reference numeral 7 in Figure 5A), respectively, to a second, adjacent one of the nodes (e.g. nodes to the right of the node of Figure 5A), and the third terminal (uppermost and rightmost circle of switch 13 in Figure 5A) of said first switch is coupled to the third terminal of said second switch (uppermost and leftmost circle of switch 14 in Figure 5A) through at least one third communication path (reference numeral 30 in Figure 5A); at least one multiplexing/demultiplexing device (reference numeral 11 in Figure 5A) bidirectionally coupled to each of an external communication node (e.g. the add/drop client inherent in Figure 5A) and the fourth terminal of each first (reference numeral 13 in Figure 5A) and second switch (reference numeral 14 in Figure 5A), said at least one multiplexing/demultiplexing device for forwarding signals being communicated between the fourth terminals of said first and second switches (as seen in Figure 5A) and for forwarding

Art Unit: 2613

signals being communicated between the external communication node and the fourth terminal of respective ones of said first and second switches (as seen in Figure 5A); and at least one controller (reference numeral 24 in Figure 5A) coupled to said first and second switches, said at least one controller being responsive to applied input information (e.g. from reference numeral 19, 21 in Figure 5A) for controlling at least one of said first and second switches to cause that at least one switch to selectively couple at least one of (a) the first and second adjacent nodes together by way of at least one of the first and second communication paths coupled to that at least one switch, and (b) the external communication node and at least one of the first and second, adjacent nodes by way of at least one of the first and second communication paths coupled to that at least one switch, wherein each first communication path (reference numeral 5 in Figure 5A) is a working path and each second communication path (reference numeral 7 in Figure 5A) is a protected path.

Regarding claim 2, 87, 91, 95, 99, Sato teaches that each of said first and second switches is a 4X4 optical switch (as indicated by the 4 input 4 output nature of each of the optical switches shown in Figure 5A).

Regarding claims 3, 52, 78, 79, 83, 88, 92, 97, Sato teaches said at least one multiplexing/demultiplexing device is a Wavelength- Division-Multiplexed (WDM) device (column 24 lines 35-40).

Regarding claim 4, Sato teaches that said at least one multiplexing/demultiplexing device includes at least one add/drop multiplexer/demultiplexer (column 7 lines 50-55).

Regarding claims 13, 56, 77, 82, and 85, Sato teaches each node further comprises at least one monitor (column 7 lines 53-59) for detecting the occurrence of a failure in at least one

Art Unit: 2613

of said first and second communication paths, and wherein said at least one monitor responds to detecting a failure in that at least one communication path by applying the input information to said at least one controller (reference numeral 24 in Figure 5A).

Regarding claim 14, Sato teaches that said at least one monitor detects the occurrence of a failure in the at least one communication path by detecting the substantial absence of light in that path (e.g. "loss of signal" in column 7 lines 50-59).

Regarding claims 17, 80, 81, Sato teaches that said plurality of nodes are coupled together through said first and second communication paths, and form a loop configuration (Figure 16).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 10-12, 54-55, 86, 89, 90, 93, 94, 96, 98, and 100 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato.

Regarding claims 10-12, 54-55, 86, 96, 98, and 100, Sato teaches fails to specifically teach the plurality of switch configurations claimed. However, Sato does teach that any of number of switch connection configurations could be made in order to provide the required operation of the optical switching node (as noted throughout Sato). Furthermore, Sato teaches that the controller makes logical decisions on the operation of the optical switches based on failure information received or the detection of the loss of signal (reference numeral 19-22 in

Art Unit: 2613

Figure 5A). Moreover, it is apparent from Figure 5A that the “loop-back” switch function is well known in the art and supported by the system of Sato. One skilled in the art would clearly have recognized from the disclosure of Sato that a variety of switching configurations would have been possible including those claimed by the applicant. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to employ the claimed switch configurations in the system of Sato.

Regarding claims 89, 90, 93, and 94, Sato differs from the claimed invention in that Sato fails to specifically teach the use of amplifiers and attenuators as claimed. However, Official Notice is given that such elements are well known in the art and readily available. One skilled in the art would have been motivated to employ these elements in order to level of signals being used in the system. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to employ amplifiers and attenuators as claimed.

6. Claims 15, 16, 57, 58 and 101 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato in view of Sharma (U.S. Patent No. 5,986,783).

Regarding claims 15, 16, 57, 58, and 101, Sato teaches said at least one controller is coupled to at least one of the other nodes of the communication network through at least one of said first and second communication paths (column 15 lines 62-67), and wherein said at least one controller is responsive to the input information being applied thereto by the at least one monitor, but differs from the claimed invention in that Sato fails to specifically teach notifying the at least one other node of the detected failure by way of that at least one communication path. However, Sharma teaches that this is well known in the art (column 16 lines 1-3). One skilled in the art would have been motivated to notify the at least one other node of the detected failure by way of

Art Unit: 2613

that at least one communication path in order to allow the adjacent nodes to reconfigure themselves accordingly (column 16 lines 1-3 of Sharma).

Allowable Subject Matter

7. Claims 5-9 and 53 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. Applicant's arguments filed 9/11/06 have been fully considered but they are not persuasive. The applicant argues that the addition of "plural" in describing the communications paths distinguishes the claimed invention from the cited prior art. However, Sato continues to read on the claim even when one considers the newly added limitation. To explain, while Sato only teaches a pair of working fibers and a pair of protection fibers, Sato also teaches that each of the fibers carries a plurality of wavelengths within each fiber (column 8 lines 43-46). As one skill in the art knows, each of these wavelengths traverses a distinct path from the input of the fiber to output of the fiber. As such, each switch of the node, while connected only to a pair of fibers, is coupled through a plurality of communication paths, e.g. each distinct path traversed by each wavelength within the fiber. Therefore, as noted in the office action, Sato continues to read on the claimed invention.

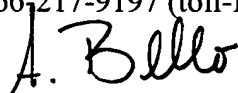
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (571) 272-3026. The examiner can normally be reached on M-F 8:30-6:00.

Art Unit: 2613

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Agustin Bello
Primary Examiner
Art Unit 2613

AB